



Super Stud Building Products - Product Submittal

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Specification Section: 05.40.00 (Cold-Formed Metal Framing) 1400S250-97 (50ksi) Standard Punch

97mil (12 ga) Coating: G60 (standard), G90 (special order)

Geometric Properties

Web Depth	14 in	Yield Strength, F_y	50 ksi
Flange Width	2.5 in	Ultimate, F_u	65 ksi
Lip Length	0.625 in	Punchout Width	1.5 in
Design Thickness	0.1017 in	Punchout Length	4.0 in
Min. Steel Thickness	0.0966 in		

Gross Section Properties

Cross Sectional Area (A)	1.9825 in ²
Product Weight per Linear Foot	6.7405 lb/ft
Moment of Inertia (I_x)	49.7693 in ⁴
Section Modulus (S_x)	7.1099 in ³
Radius of Gyration (r_x)	5.0104 in
Weak Axis Moment of Inertia (I_y)	1.1630 in ⁴
Weak Axis Radius of Gyration (r_y)	0.7659 in
Depth-to-Thickness Ratio (h/t)	133

Effective Section Properties, Strong Axis

Effective Area (A_e)	0.8583 in ²
Moment of Inertia for Deflection (I_{xe})	45.3767 in ⁴
Section Modulus (S_{xe})	5.9452 in ³
Allowable Bending Moment (M_a)	177.9998 in-k
Allowable Shear Force in Web (at Punchout) (V_y)	6,938 lb

Torsional Properties

St. Venant Torsion Constant ($J \times 1000$)	6.8351 in ⁴
Warping Constant (C_w)	43.5460 in ⁶
Distance from Shear Center to Neutral Axis (X_o)	1.2107 in
Radius of Gyration (r_o)	5.2112 in
Torsional Flexural Constant (Beta)	0.9460

Codes and Standards

Super Stud products comply with the applicable provisions of the following:

International Building Code (IBC): 2006 – 2024

Complies with AISI S100-16 (2020) w/S2-20. Effective properties incorporate the strength increase from the cold work of forming

Sheet steel: ASTM A1003/A1003M; ASTM A653/A653M

Galvanized coating: ASTM A653/A653M

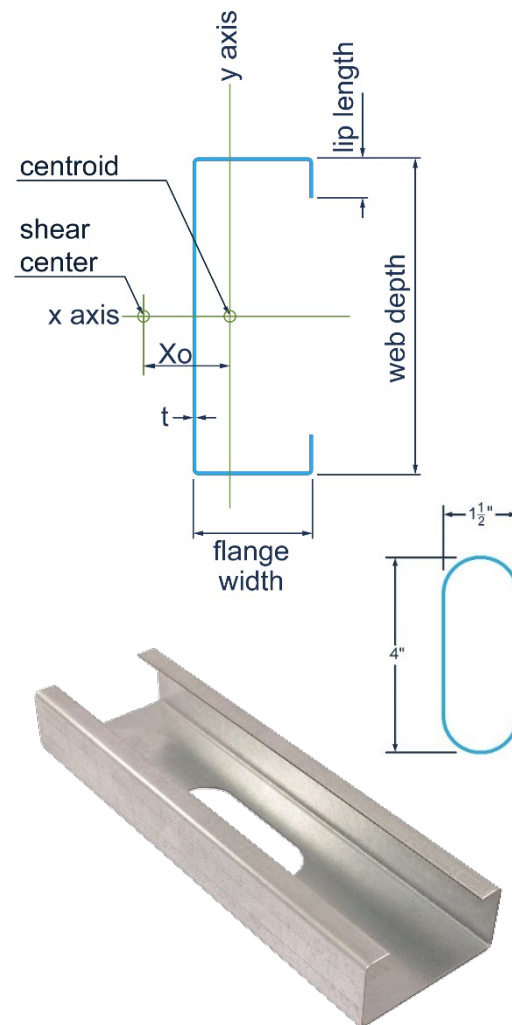
Nonstructural: Members and tolerances: ASTM C645; AISI S220, AISI S201, AISI S202

Meets ASTM C754 when installed properly in structure.

Structural: Members and tolerances: ASTM C955; AISI S240, AISI S201, AISI S202

Meets ASTM C1007 when installed properly in structure.

3rd party Certification



Structural Punchout

First punchout is centered 12" from beginning of member; subsequent punchouts are 24" on center (o.c.). Center of last punchout is no less than 12" from end of member.

Custom stiffened punchouts are available at tighter spacing to reduce thermal transmittance and increase accessibility. Contact Technical Services for additional punchout information.

Sustainability

For LEED letters contact Technical Services at technical@buysuperstud.com or visit



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